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Carefully designed questions for classroom discussions can guide students in making judgments and understanding the processes of logical thought. Effective questioning, however, depends on the teacher's awareness of the forms and classifications of inquiries. Any question is made up of two parts: the process stimulus (which indicates the process the listener must use in making his response, e.g., "describe," "compare") and the content stimulus (which varies with the subject matter). Questions in general may be classified into 11 process stimulus categories, such as "defining questions," "classifying questions," and "if-clause inferring questions." If the basic structure of a question and the taxonomic differences between questions are understood, the teacher can design questions that will help his students attain the goal of a particular lesson. A more important result is that he can make his students aware of the need for integrating rational thought processes into their experiences.

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The Growing Edges of Secondary English

**Essays by the Experienced Teacher Fellows
at the University of Illinois 1966-1967**

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THE QUESTION: WHAT TO ASK?

by DONALD E. FULLER

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Miscast questions can create havoc in a classroom discussion. Such questions turn the discussion into a lecture or become the bases for vague exchanges between the teacher and a few of the brighter students; consequently, the discussion period becomes inefficient in the utilization of class time and ineffective in realizing the lesson's purpose. The major value of classroom discussions is that they bring insight to ideas by developing a pattern of inquiry which aids students to solve problems. If worthwhile discussions cannot be achieved by a majority of the students, then a teacher might do well to examine his questions and his questioning patterns. Two examples should suffice to illustrate how a question can become a discussion stopper instead of an incentive for exploring a problem.

In a discussion of Frost's "Stopping by Woods on a Snowy Evening," a teacher's first question might be "The poem seems to be about a man traveling in a sleigh and passing by a woods. What is it really about?" The students respond by saying that to them it's about a man stopping by a woods on a snowy evening. If the teacher protests that there is a "deeper meaning," students may grumble about poets' always choosing the most difficult method of saying something simple. To the teacher's discomfort the discussion has become a contest of expressing what is worst about studying poetry. In this situation, obviously, the objectives of the lesson are not being accomplished.

In another case the teacher has developed a study guide for a lesson in which the students are to understand the misuse of language as illustrated by clichés. The first question asks the student to list five clichés he has heard or read. The second question asks them why people use clichés. In many of the students' answers to the last question, the teacher discovers that these answers only talk about the five instances of the clichés asked for previously. Few had been able to state a general principle about the particular misuse of language that clichés illustrate.

These examples point out that ineffective discussions result from asking the improper questions. On the other hand, to improve his instructional techniques a teacher might view the successful discussion as one which enables students to understand what information and what processes are needed to solve a particular problem. Of course the teacher's first step in creating such a discussion should be a clear set of objectives. Next he must examine his own understanding of the material and create the sequence of events which, for example, will logically take the students from the words of the poem to a valid interpretation of it. At each step there must be a significant question, and, if each question has been the proper one, the discussion progresses and the lesson's objectives are realized. For many teachers the ultimate objective of any discussion is to have the student ask *himself* the proper question so that he can independently arrive at a valid interpretation of the assigned materials. To test mastery, the teacher, at the end of a unit which has aimed at poetry interpretation, for example, can ask the student to analyze and give a valid meaning to a poem he has never seen before. The student's paper should reflect how well that student has mastered the process of asking himself the right questions.

The importance of good questions is rooted in the belief in the importance of logical thought. In making any generalization (e.g., "This poem is a sonnet"), a student should be able to support his generalization with evidence. In developing his proof the student will rely upon two kinds of evidence. The first kind is what is called *direct* or *empirical* evidence. This evidence is the result of examining the information that is available to one's senses; it stresses the development of observational skills. If a student generalizes about a poem, his direct evidence is the poem as it appears on the printed page. The *indirect* evidence, on the other hand, relies upon the application of the deductive and inductive processes. In stating direct evidence the student might say that the meter of a particular poem is iambic pentameter when read by a speaker of the proper dialect. Indirect evidence might be a conclusion based on reasoning from the premise that all sonnets have a metrical pattern of iambic pentameter.

The complicated process of collecting evidence and arriving at generalizations can be illustrated better by an example. A twelfth grade English class has been studying sonnets by Shakespeare, Donne, and Wordsworth. The teacher has had as one of his goals the recognition of the value and purpose of form in poetry. Tomorrow's assignment is to read Shelley's "Ozymandias." The teacher knows that the poem presents a problem in identifying its form because it appears in some

ways to be a sonnet, and yet some qualities seem quite foreign to the traditional pattern used by Shakespeare, Donne, and Wordsworth. Before the teacher can discuss why Shelley chose his particular variation, the student must discover whether the poem is a sonnet, a variation of a sonnet, or perhaps even an entirely different form; therefore, the possible first question could be "Is 'Ozymandias' a sonnet?"

In defense of his answer to this question, the student will justify his description of the poem's form by showing whether the traditional classification of the sonnet form and the form of "Ozymandias" are congruent. But his final statement will have to be his judgment of whether enough essential characteristics are present in order to classify the poem as a sonnet. The student's judgment may be assessed in two ways: his use of direct evidence (his examination of what the poem contains) or his use of indirect evidence (how well he has shown the relationship between his definition of a sonnet and its application to "Ozymandias").

The student's first task is to gather facts by an empirical examination of the poem itself. He studies it to describe its rhyme, meter, point of view, and structure and compares these characteristics with his definition of a sonnet. At this point the student turns to indirect evidence, an authoritative definition of a sonnet. Since the sonnet's characteristics have already been established by poets who have accepted certain conventions of rhyme pattern, meter, and content development, the use of an authority who has studied such poems is acceptable. Of course the teacher may wish to allow the student to discover the sonnet's essential form through the examination of various examples. But, no matter how a student proceeds, the characteristics of this verse form have already been established historically.

The student, then, must take his evidence from the poem itself and compare it to his definition of a sonnet. The method by which he makes the comparison also becomes a kind of indirect evidence to enable him to justify his conclusions about the nature of the poem. The rendering of this judgment is the most difficult step, for there are no hard and fast rules to determine what variations from the norm will be significant in judging that the poem is not a sonnet. Hopkins, for example, has written poems of ten lines which he calls "curtal sonnets." Their structural proportions are sestet and quatrain rather than octave and sestet. Examples such as "Ozymandias" and the Hopkins poems show us that any questions about "definitions" of the sonnet cannot really be *answered* although they can be fruitfully discussed.

THE CLASSIFICATION OF QUESTIONS

This lengthy discussion of "Ozymandias" has been used to illustrate the need, when preparing questions, to be aware of the complex logical problems that a student must solve in order to create a coherent answer, not to justify teaching the intricacies of the sonnet form. Our problem as teachers is to be sure that we have a grasp of the varieties of logical operations which a single question may demand in order that we can follow the sequence of events which lead the student to a valid answer. Too often the teacher treats a judgmental answer as a fact of the same nature as the date of Shelley's death. Yet the *process* by which an answer was developed is often the most important objective of asking questions. Once a question has been answered its process and information are known to the student. The power of the question to that class, upon being repeated, is that of recall because the student only has to think back to whatever conclusions were reached previously; he does not need to go through a problem-solving process. Even in a unit test an essay question such as "Prove or disprove the statement that 'Ozymandias' is a sonnet" will now be the regurgitation of the earlier discussion. The major emphasis of the study of "Ozymandias" was not the collection of information. Rather, the lesson helped the students learn the process of selecting evidence and applying it in order to solve a specific problem. In a discussion, each question implicitly or explicitly helps the student understand the nature of the process by which he arrives at an answer as well as the needed information about a subject. With some forethought about questions, the teacher can better control the learning situation and teach the students one of the processes by which problems in literary analysis are solved.

A Way to Look at Questions

A useful way to look at questions is to examine their peculiar structure and semantic signals. In a series of utterances there are built-in syntactic signals, such as verb position, which alert the listener to specific utterances which will require an active response from the listener. Also semantic clues, such as words like *who*, *what*, *how*, and *why*, tell the listener an answer is expected. Therefore, the syntactic and semantic elements alert the listener by the structure and meaning that the normal flow of utterances will be stopped so that the listener can in return utter an appropriate comment. (If this is a definition of a question, then the imperative statement, which requests a verbal response, must also be considered as a type of question.) Beyond the

classifications of the questions just given, there are numerous variations. A few of these are tag questions, negative questions, and rhetorical questions. While such forms of questions provide unique ways of obtaining responses and create specific speaker attitudes, this paper will not attempt to explore such forms.

A typical question then can be divided into two parts: (1) the *process stimulus*, that part of the question which indicates the process the listener should use in making his response, and (2) the *content stimulus*, the part which tells the listener what quality, condition, or thing the questioner wants analyzed, explained, described, etc. The number of various process stimuli is limited to a fairly small group because of the limited ways by which we supply information in questioning. A few examples of such answer activations are *describe*, *compare*, *explain*, *report*, *why*, *give reasons*, and *what happens*. The content stimulus, of course, can concern itself with any topic from any field of knowledge; it is virtually unlimited. Because of the limitation in the number of the process stimuli, however, the possibility of developing a classification of questions exists.

In actuality, the development of a highly accurate classification system based upon the process of the response is fairly remote. One must not forget that the question is not an entity in itself but must be placed in the context of a larger series of comments made by the speaker and his listeners. Furthermore, the situation in which the question is formulated can affect the meaning of a question. Even a slight verbal intonation can change the intention of a question. Finally, a response to a question's content depends upon the particular subject field; thought content can be handled in different ways. If a student in natural science is asked to describe a picture, his response is very likely to be different from that of a student describing the same picture in art class. Even though an ideal classification system for questions is not possible, useful information in the art of questioning can be discovered by applying the knowledge about the nature of questioning which already exists.

In order to develop a classification system (or taxonomy), one method that has been attempted has been to study those logical processes by which the answerer arrives at his answer. These logical processes are limited in number, however, and are therefore subject to classification. B. Othanel Smith and Milton O. Menz have developed a classification of these processes which is reported in *A Study of the Logic of Teaching*. Their taxonomy did not begin as a study of questioning; rather it grew out of the study of "the forms which verbal

behavior takes as the teacher shapes the subject matter in the course of instruction."¹ These verbal behaviors were examined as logical operations. While the operations may be elliptical or incomplete as practiced in the classroom, the authors felt that the logical operations were distinct enough so that they could be identified and described in the teaching behavior.

To develop their classification scheme, the authors used the transcripts of actual teaching sessions. They then analyzed these transcripts in terms of a unit called an *episode*, which they define as a unit of discourse "beginning with an expression triggering a verbal exchange about a topic and ending with the completion of the discussion of the topic."² In most cases these units of discourse were dialogues between the teacher and the students. The categories and the criteria for categorization were in part developed from the authors' examination of the initial triggering sentence, which most often was a question; thus, in a sense, the system which finally evolved became a method for classifying questions. For the present discussion I have adapted the categories created by Smith and Meux to use as a taxonomy of classroom questions.

Despite Smith and Meux's careful preparation of their taxonomy, they admit some difficulties. In the first place the categories could not be defined so explicitly that they were completely independent of each other. Sometimes categories overlapped or there was difficulty in detecting differences between categories, since some logical operations seem to differ only in part from others. Finally, some areas were so complex that time prevented thorough analysis of the subtle differences in the logical processes involved.

Although Smith and Meux's taxonomy has some weaknesses, its application can help a teacher to formulate better questions and to exploit the value of his instructional model. One can learn what assumptions he is making about the students' perceptions of logical operations; moreover, the teacher may now see his organization of a discussion or study guide in terms of the activities needed to attain an understanding of the concepts involved. Through good questions the students will learn, for example, that rules are involved in the process of proving their answers, and when students need to solve other problems, such as in a theme assignment, they will have a method for organizing their arguments more effectively.

¹ B. Othanel Smith and Milton O. Meux, *A Study of the Logic of Teaching*, USOE Project 258 (7257) (Urbana: University of Illinois, 1962), p. 3.

² *Ibid.*, p. 10.

CATEGORIES OF QUESTIONS

The categories given here are largely a simplification of the categories of Smith and Meux's taxonomy and are presented in the hope that the distinction among logical operations will be useful in solving teaching problems. Originally the taxonomy had been developed as a research tool, requiring completeness and complexity. These categories reflect my understanding of some of the problems in forming good questions. The resulting categories are not nearly so complete as their model, but I believe that the distinctions made are very real and useful. While the basis for the categories rests heavily upon *A Study of the Logic of Teaching*, I have drawn upon other sources and upon my personal experiences as an English teacher; whatever criticism that the categories warrant should be considered my responsibility and not a reflection upon the work of Smith and Meux. In general my procedure is to name a category, define it, and give some examples to illustrate the category or, in some cases, subcategory.

I. Defining Questions: A lexical report of the meaning of a term is asked for explicitly or implicitly. Sometimes this report would include the identification of a proper noun, if the identification is expected to be brief. Also, one may be asking for the meaning of a particular symbol.

1. What does the word *conflict* mean when used in literary criticism? (explicit)
2. How is *turbulent* different from *placid*? (implicit)
3. Who was Robinson Jeffers?
4. What is the meaning of *e.g.*?

II. Describing Questions: This category is very extensive because one can describe many different types of things or events. The description will often entail making a judgment as to what are sufficient and necessary characteristics of the thing described; however, this evaluation should have no sense of goodness, usefulness, or any other connotative judgments indicating the *value* of what is being described. A description is usually characterized by the word *what* in combinations such as "What can you tell me about . . ." "What is . . ." "What happens . . ." or "What does (he/it) do when . . ." The problem content which follows this question stem can be:

A. An operation

1. What is the author's method of developing conflict in *The Sea Wolf*? (What is expected is that the student simply describes the stages of the conflict.)
2. In this paragraph the statement "Although Americans have hours of leisure, they choose to waste it in front of the television" is the topic sentence. Find the three reasons the author uses to support this idea.

B. A relationship

1. What is the relationship between speaking and writing?

2. What can you tell me about Huck's attitude towards the river and his attitude towards the people he meets on the river?

C. An object, form, or appearance

1. What is the Dewey Decimal System? (More is expected than a brief definition.)
2. Describe the proper form for footnoting to be used in these papers.
3. What are the uses of the semicolon?

D. A property or characteristic

1. What are the characteristics of a short story?
2. What are the characteristics of a good paragraph?

E. An event

1. What happened after Sam McGee was cremated in the barge?

III. *Designating Questions:* A designating question asks for one, some, few, or all examples or instances or for a classification or idea. It does not ask for reasons, arguments, or beliefs, however, unless they have been specifically given.

1. What are some other examples of parallelism in this paragraph from "A Sound of Thunder"?
2. Find as many instances as you can that Ulysses' desire for travel is something more than a thirst for adventure.
3. Who in the story knows that the jewels were actually paste?
4. What do we call this kind of point of view? (We expect an answer like "effaced narrator.")

IV. *Stating Questions:* This form of questioning asks for rules, reasons, arguments, beliefs (of someone other than the answerer), conclusions, criticisms, and recommendations. They may be stated implicitly in the material being covered, or they may be devised by the answerer. If they are stated *explicitly* in the text or by the teacher, the student's response would be describing.

1. What criticism did the author make of revolutions in this chapter of *A Tale of Two Cities*?
2. What, then, are your conclusions about the use of Moby Dick as a symbol?
3. What are the transformations needed to change this deep structure to the form of sentence two?

(The differences between describing questions and stating questions are difficult to distinguish. Essentially the stating questions go a step further than describing questions in that the student must extract a reasoned choice suggesting the inherent nature of the material being discussed—the difference between a surface description and a study of the conclusions about the object or event.)

V. *Evaluating Questions:* These questions generally will include such words as *good*, *right*, *true*, and *bad*. They refer to the value of policy, decisions, laws, behavior, or groups and often ask the student to make a rating.

1. Was Huck right in helping Jim?
2. Is Thoreau's argument for civil disobedience a good one?
3. Was the ending of the feud in *Romeo and Juliet* worth the deaths of the lovers?

VI. Reporting Questions: This question asks specifically for what the text or a book states about something. In this type the teacher insists that the student consult the source and quote from it.

1. What does the author say about pride in his first paragraph?
2. How does Mark Twain describe Jim? From your book, please.
3. State the passive transformation rule as it is given in the book.

VII. Opining Questions: Contrasted to evaluating questions, opining questions do not ask for a rating. One is asked for an opinion about an event, a person, an operation, an object, or an idea.

1. How do you think *Ethan Frome* will end?
2. Do you think that Charles Darnay is sympathetic with Carton's problems?
3. How do you think Medea felt about the Greeks in general?

VIII. Classifying Questions: Generally an example or instance is given, and the student is asked to name its class, type, group, or kind.

1. With what group of writers does Stephen Crane belong?
2. How would you classify the word *it* as used in this sentence?
3. What type of writing is illustrated by this paragraph?

IX. Comparing and Contrasting Questions: Generally these are marked by such words as *compare*, *contrast*, *differ from*, or *like*. The listener is asked to relate two or more ideas, objects, events, or other kinds of concepts.

1. Compare Antigone with her sister Ismene.
2. Contrast the form of an epic poem like the *Iliad* with a long narrative poem like *Idylls of the King*.

X. If-Clause Inferring Question: The first part of this question, in the form of an *if*-clause, gives a condition, such as a hypothetical situation, and the main clause asks for the effect or result of that condition.

1. If the story is told in the first person, what will probably be the limitations of the narration?
2. If this sentence is the topic sentence, what sentences are irrelevant to the paragraph?

XI. Explaining Questions: These are the questions which ask "why" or "how," and often these two words are found in the question (or else the sense of *how* and *why* is suggested). In general evidence is asked for to support any conclusions of the answerer. Developing the justification of an answer is probably the most complex task a student performs, so these questions are often the most difficult to answer well. The nature of what one is explaining affects how one verifies the evidence. In English classes these types seem to be used most frequently.

A. Causal explaining (explains a psychological state or how one cause leads to an outcome).

1. Why did Othello believe Iago?
2. How does the imagery in "Dover Beach" support the mood of the poem?

B. Sequent explaining (explains how prior events lead to a conclusion; a chronological arrangement is suggested).

1. Why does Sidney Carton end up sacrificing himself? (The student

will give the series of actions and decisions which led to the final act.)

2. In *The Scarlet Letter*, "The forest scene is the structural center of the book: everything leads either to or away from it." Comment on this statement.

C. Functional explaining (explains what purpose causes a problem or effect; explains how or why something works).

1. What is the function of the narrator Marlowe in *Heart of Darkness*?
2. Why does the author entitle her story "The Lottery"?

D. Normative explaining (explains a classification or characteristic or offers a justification of a choice; the explanation is made in terms of some standard).

1. Why does Stephen Crane belong to the naturalistic school of writing? (Characteristics of the school and Crane are shown to be alike.)
2. Why did you decide that this was the kernel sentence? (A system of principles is given to justify a choice.)

USES OF THE TAXONOMY

Because of the absence of the contexts of the questions used for examples in the taxonomy, a reader might easily justify switching questions among the different categories; however, one must remember that the definitions of the categories are illustrated by the questions, and the definitions should suggest the appropriate context of the question. The response to a question will ultimately decide which category is most appropriate. Quite often a teacher thinks he is asking a question calling for a response in one category while the student will respond showing he is interpreting the question in another category.

Study Guide Questions

A recent literature anthology asks the questions, "What are Mme. Loisel's characteristics as described by de Maupassant in the first five paragraphs of the story? What are her values?"³ Using the categories, one might identify the first part of the question as a describing question (II, D). It also might suggest a report from the text (VI). The second part of the question could also suggest a description. The question "What are her values?" might have been written "Describe her values." While on the surface the question might be taken as simple description, the student faces a bigger problem. In reading "The Necklace" the student will find that the author does not explicitly list

³ Robert A. Bennett, Verda Evans, and Edward J. Gordon, eds., *Types of Literature* (Boston: Ginn and Company, 1964), p. 87.

Mme. Loisel's values. The implicit nature of the material demands that the student must arrive at an answer from reading the narrative and descriptive elements of the first five paragraphs. The teacher handbook for the series gives the answer, "Her values all relate to outward external things: 'to please,' for her, means to have wealth and position, not the possession of the inward qualities of character."⁴ To arrive at this answer the student must find and interpret three terse sentences from "The Necklace" (as found in their text, *Types of Literature*): "She had no dresses, no jewels, nothing. And she loved nothing but that: she felt made for that. She would so have liked to please, to be envied, to be charming, to be sought after." After the teacher realizes that, according to the taxonomy, this question should be categorized as a stating question—one that asks for a conclusion or interpretation—he can begin to consider if this is the best question to ask. In making the assignment the teacher could pinpoint the passage explaining Mme. Loisel's values so that the task here will be simply interpreting, not both hunting the passage and then interpreting. Each teacher will have to decide what approach fits his goals best, but the importance of analyzing his discussion questions before giving them to the students becomes evident. The teacher can then judge what the logical processes are. One advantage of the taxonomy then is to help the teacher decide what processes are used in answering a question.

In developing the study guide for de Maupassant's "The Necklace," Verda Evans faced the problem of developing questions to discuss the story's ending. Her organization of the questions suggests that the order of questioning and the formulation of the question could be useful in having the student formulate a justification for the ending of the story. The students are to judge whether "The Necklace" has a good surprise ending.

Is the ending of this story a trick ending used only for the sake of surprise, or is the ending justified by what de Maupassant wanted to say about his characters and their lives? (Consider, for example, whether the events leading up to the ten years of drudgery were in any way caused by Mme. Loisel's character or if they were the result of nothing but coincidence. Does the ending provide any comment on Mme. Loisel's character or life?)⁵

The taxonomy would classify the questions as normative explaining, in that they ask why something is classified in a particular way and why it should be called what it is called. The author of the study questions asks why the ending is classified the way that it is. The

⁴ Verda Evans, *Teachers' Handbook and Key for Types of Literature* (Boston: Ginn and Company, 1964), p. 64.

⁵ Bennett, et al., *op. cit.*, p. 87.

material in parentheses suggests that one can ignore the trick quality of the ending since it shows the truth of the idea that what happens to a person is the result of his personal values.

Lest one think that Miss Evans wrote the question without thought about any general principles about how to write good questions, the following quotation should prove otherwise. In the introduction to the handbook she says, "Good questions, then, set in a logical order, will enable a student to understand or even go beyond what the teacher sees in the piece under discussion."⁶ Much more is said about how questioning should be prepared, but let us return to this particular study question about justifying an ending. Depending on the abilities of the students, there might be merit in having the student collect the evidence about what led to the ending; the teacher's own series of questions could suggest the process of justification more clearly than those of the textbooks. He could devise a sequence something like this: (1) What does the author imply about Mme. Loisel's character? Do you think it had anything to do with what happened to her at the end of the story? Explain. (2) Do you think Mme. Loisel deserved what happened to her? Explain. (3) If the ending is not used for the sake of surprise, what general principle about life does the ending suggest? (4) If this ending is a good ending, what are some standards for judging good endings?

Once we become aware of the process needed to achieve a particular kind of explanation, it becomes easier to write the appropriate questions. One difficulty in discussion questions is that quite often the student is asked to *state, designate, report, or describe*, but the teacher seldom understands why he has the student collect all of this information. Questions which ask the significance of the information are also desirable in that the "facts" are used to solve a problem. The questioner may expect students to see the implication of a describing question, but some additional questions might make the purpose of the answer more relevant.

In summary, the development of study questions requires the questioner to consider the objectives of the lesson being prepared. Then he must explore the possible paths for achieving his goals. At this point he sees the possible value of a study guide. In designing his questions, he will take advantage of his knowledge of the taxonomic differences in processes and choose from among the categories in order to develop the steps which will gradually shape the process by which the student achieves the goal of the questioning. For instance, to

⁶ Evans, *op. cit.*, p. 3.

achieve an explanation may first require reporting, describing, evaluating, and classifying. A major characteristic of good study questions is this sense of focusing the attention of the student to help him solve a problem. Breaking the problem into a reasonable progression of its components will assure the questioner that the students are likely to reach a reasonable solution. If some of them fail to find a satisfactory solution, the questioner can look at all of their answers and decide at which points they lack specific skills. The focus of future lessons can be aimed at overcoming these weaknesses.

Discussion Questions

In addition to helping in the construction of study guides, knowledge of the taxonomy's categories can clarify students' comments during class discussion. For example, the use of the *if*-clause inferring question can force students to fill in the gaps in their reasoning. Quite often a student will infer an opinion without any evidence or facts. When he sees the complete argument and the force of logical necessity, he will recheck his premises and arrive at a more reasonable conclusion. An illustration may be helpful here. In the study of *The Red Badge of Courage*, the teacher might wish to engage the students' interest prior to reading the novel by questioning their notions of cowardice. In reply to the question, "What is cowardice?" a student may suggest that it is being afraid. The teacher, making use of the *if*-clause inferring pattern, counters with "Are you saying if a soldier is afraid before going into battle, he is a coward?" Probably the student will wish to qualify his first remark. Perhaps he will say, "A coward is anyone who cannot control his fear and runs away." "Do you mean if a man is a coward, he will run away from a battle?" the teacher again counters. Another student might suggest, "Some men are more afraid of what will happen to them if they do run away. Aren't they as much cowards as the man who runs away?"

Such a discussion enlivened by the use of the *if*-clause can often provoke the students to reexamine their hypotheses more critically. When they finally turn to *The Red Badge of Courage* itself, they will be more apt to examine Crane's assumptions as critically as the teacher has examined theirs.

The question is an indispensable tool for the instructional procedure. An attempt has been made to show how a taxonomy of logical processes can help increase the effectiveness of the questions in study guides and classroom discussion and in the questions a teacher might ask himself. This paper only introduces the teacher to some of the possi-

bilities of how logical processes can help develop meaningful questions. But it must be remembered that the questioning process is yet to be definitively explored, and much that is already claimed is speculative. The key rests in the efforts of the classroom teacher to inform his students of the importance of rational processes and to experiment with ways of integrating them into his experiences.

**STRUCTURES FOR THE CURRICULUM:
SELECTED BIBLIOGRAPHY FOR FURTHER READING**

- Copi, Irving M. *Introduction to Logic*, 2nd ed. New York: The Macmillan Company, 1961.
- Krathwohl, David R. "Stating Objectives Appropriately for Program, for Curriculum and for Instructional Materials Development," *Journal of Teacher Education*, XVI (March 1965), 83-92.
- Lessinger, Leon M. "Test Building and Test Banks through the Use of the Taxonomy of Educational Objectives," *California Journal of Educational Research*, XIV (November 1963), 195-201.
- Pfeifer, Isabel, and O. L. Davis, Jr. "Teacher-Made Examinations: What Kind of Thinking Do They Demand?" *Bulletin of the National Association of Secondary School Principals*, XLIX (September 1965), 1-10.
- Purcell, John. "An Experiment in Developing Attitude Scales for Classroom Use," *Phi Delta Kappan*, XLVI (June 1965), 533-534.
- Scribner, Duane C. "Learning Hierarchies and Literary Sequence," *English Journal*, LVI (March 1967), 385-393.
- Smith, B. Othanel, and Milton O. Meux. *A Study of the Logic of Teaching*. USOE Project 258 (7257). Urbana: University of Illinois, 1962.
- Squire, James R., and Roger K. Applebee. *A Study of English Programs in Selected High Schools Which Consistently Educate Outstanding Students in English*. Cooperative Research Project No. 1994. Urbana: University of Illinois, 1966. Published as *High School English Instruction Today: The National Study of High School English Programs*. New York: Appleton-Century-Crofts, 1968.
- Taxonomy of Educational Objectives: The Classification of Educational Goals*. Benjamin S. Bloom, *Handbook I: Cognitive Domain* (1956); David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, *Handbook II: Affective Domain* (1964). New York: David McKay Company, Inc.